


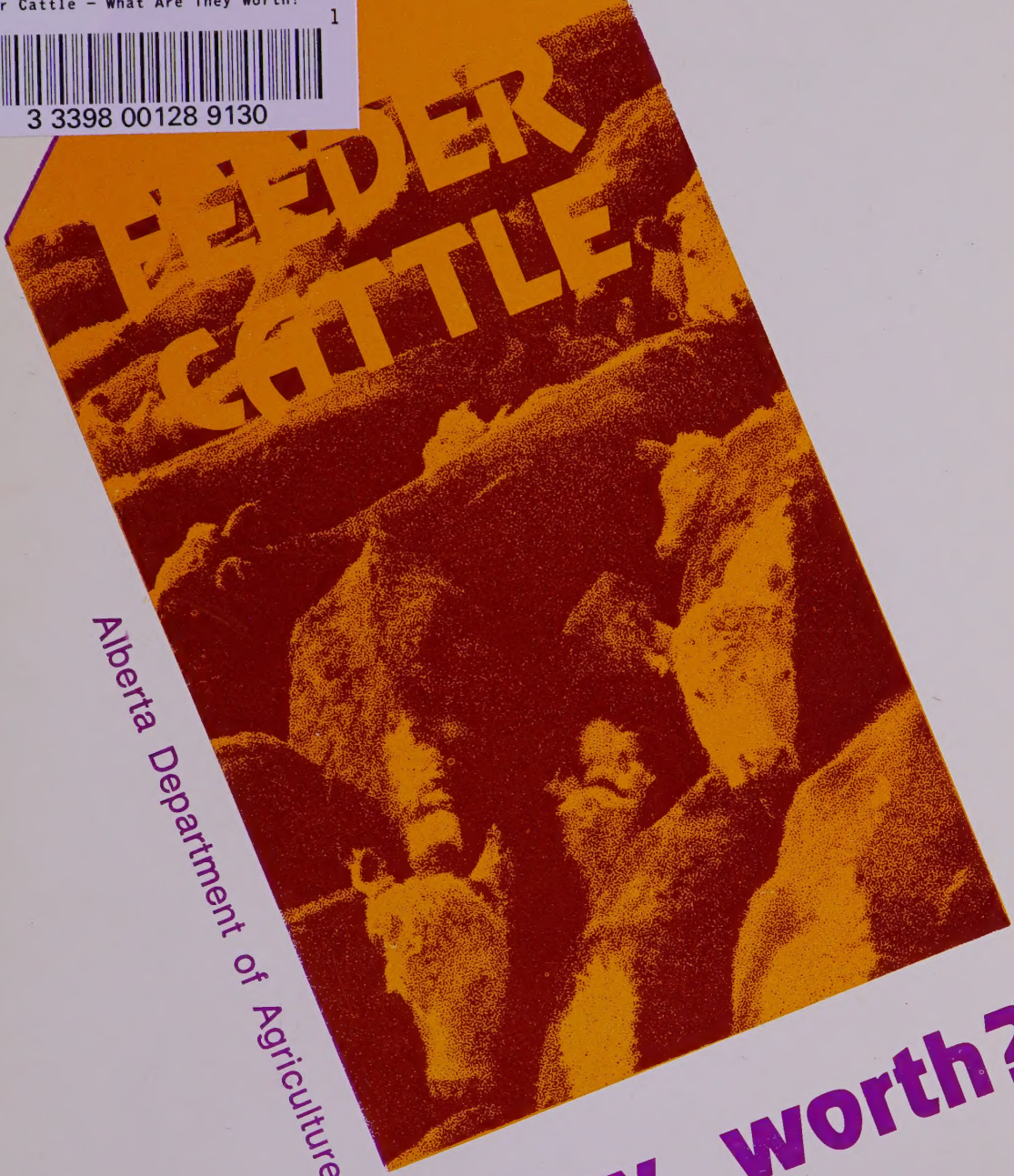
CA2ALA 17
70 F21

PUBLICATION NO. 420/848
5M,11,70

CA2 ALA 17 1970F21
Feeder Cattle - What Are They Worth? 1



3 3398 00128 9130



Alberta Department of Agriculture

What are they worth?

LIBRARY
VAULT 19



FEEDER CATTLE – WHAT ARE THEY WORTH?

by

A. W. N. ERICHSEN

Supervisor, Feeder Associations

Animal Industry Division
Alberta Department of Agriculture

HONOURABLE H. A. RUSTE
Minister

E. E. BALLANTYNE, D.V.M.
Deputy Minister

FEEDER CATTLE – WHAT ARE THEY WORTH?

Cattle finishing in Alberta has expanded into a major farm operation. The quantity and quality of butcher steers and heifers marketed in Alberta has greatly increased. Some of the factors that have contributed to the development of this industry include a good supply of feeder animals, and a plentiful supply of feed grain. The inability to market wheat and other grains through the normal channels and the inability to store or dry tough and damp grain in years of poor harvest weather, have enhanced the opportunities of profitably marketing grain through cattle.

A basic question of feeders and people contemplating entering the cattle feeding business is, "How much should I pay for the feeder animals?" In the past a majority of feeders bought their feeder replacements at the going market price, not knowing if the animals would return a profit or loss at the end of the feeding period.

A practical approach can be taken to the problem, and a reasonably good solution arrived at using break-even analysis.

In analysing the basic problem of "How much should I pay for the feeder animals?", a desirable situation would be one of making a profit, with a necessity of at least breaking even on the venture. To show a profit or at least break even, the money that is received for the fattened animal has to be greater than, or at least equal to the money paid for the feeder plus the cost of fattening the feeder to its market weight.

In mathematical form this situation can be represented by

$$P_2 W_2 \geq P_1 W_1 + C (W_2 - W_1)$$

where P_1 is the purchase price per pound

W_1 is the purchase weight in pounds

W_2 is the selling weight in pounds

P_2 is the selling price per pound

and C is the cost of producing a pound of beef in the feedlot.

To change this formula so that P_1 the purchase price is isolated, the new formula becomes

$$P_1 \leq \frac{W_2}{W_1} (P_2 - C) + C$$

To eliminate the need of calculating out the P_1 or purchase price by feedlot operators, tables A, B, C, and D of the appendix have been calculated to permit the rapid determination of this price.

In determining the purchase price of a feeder animal, other values such as the cost of producing a pound of beef have to be known or calculated.

The purchase weight in pounds of feeder animals is fixed. Feeder animals that are for sale can be weighed and an accurate weight obtained. The tables, A, B, C, and D in the appendix have been calculated for animals weighing 300 lb., 450 lb., 600 lb., and 750 lb. respectively at purchase. Feeder animals that weigh in between these values can have their price determined by interpolation. For example feeders weighing 375 pounds would price out at an average of tables A and B.

The selling weight of the animal can also be determined. In this case goals of either 1050 pounds or 900 pounds have been set out for all classes of feeders purchased. The 1050 and 900 pound weights were taken as they allow choice grades to be received for steers and heifers respectively. These weights also closely approximate the average to which steers and heifers are finished in Alberta.

The selling price of the finished beef is usually unknown. This price can be approximated reasonably accurately. One method is to check on the futures market to see what livestock futures are selling for in the month you wish to sell. An advantage of this futures price is that if it is a desirable price, in that it will provide a profit, it can be used to "hedge" or insure the selling price of the feeders. The selling price might also be estimated by checking sales reports of livestock selling at a livestock yard. The prices

obtained in this manner may be then compared to average prices over past years at the Calgary or Edmonton stockyards. The average monthly prices for the years 1964 - 1968, as well as yearly averages, are given for Calgary and Edmonton in tables E and F.

Information on current marketings and prices, as well as outlook information on cattle prices, is contained in the "Alberta Farm Economist", a quarterly publication by the Marketing Division of the Alberta Department of Agriculture.

The final factor that has to be considered is the farm operator's own cost of production. If farm records are available, an accurate value can be placed on the cost of production.

For those individuals whose production cost is not known, an average production cost of \$25.17 per cwt. may be used. This average value is taken from the 1967 "Alberta Cattle Feeding Analysis" and is the average cost of producers reporting in that year. This cost of production is based on cattle purchased at 576 pounds and fed to 987 pounds. Of the farmers reporting in 1967, those with the lowest costs were producing beef for \$22.99 a cwt. and the highest cost group was producing beef for \$26.31 per cwt. A breakdown of these costs is given in table G of the appendix.

In that analysis the following factors were found to influence the cost of production. These factors with their average contribution are listed below:

Feed Costs	73.5%
Variable Costs — (maintenance, repairs, straw, death loss, veterinary, fuel)	7.0%
Fixed Costs — (depreciation, taxes, interest, insurance)	14.5%
Labor	5.0%

In order to realistically calculate a break-even price, all these factors should be considered. In some situations, where an operator is supplying all the labor and where the labor would not be used if the cattle were not fed, it may be possible to use a zero labor cost. In the 1967 Analysis, labor was charged at \$1.36 per hour. Elimination of the labor from the cost of production decreases the average cost of production from \$25.17 per cwt. to \$23.81 per cwt.

The production cost of \$25.17 was arrived at by valuing the barley fed at \$.95 per bushel. This value may not be a realistic market value for the grain in some years and so table H of the appendix has been calculated for different prices of barley. The varying prices of grain have been computed with and without labor to give two new production costs.

On the basis of the above calculations, it is possible to calculate break-even prices for feeder animals. Suppose, for example, that the feeder wishes to buy thirty feeder steers from his neighbor. They have been able to run these steer calves over a portable scale and have found the calves to weigh an average of 440 pounds. This weight is close to the 450 pounds calculated in table B.

In this example, the feeder did not know his cost of production, but was able to place a value of \$.70 per bushel on his barley. He also wished to be paid for his labor. Using table H he was able to calculate a cost of production of \$21.80 per cwt. which he rounded off to the nearest dollar to give a production cost of \$22.00 per cwt.

This feeder calculated his future selling price to be \$29.00 per cwt. at the time his feeders would weigh 1050 lb.

Using table B this producer first located the production cost column headed by \$22.00. He then followed the horizontal line headed by the selling price of \$29.00 per cwt. until he reached the column headed by \$22.00 per cwt. of production cost. The value of \$38.45 is the amount that can be paid for these feeder calves and still break even. The feeders have to be bought for less than \$38.45 per cwt. to insure a profit. You will note that a drop in the market price of \$3.00 per cwt. from \$29.00 to \$26.00 will result in a necessary drop of \$7.05 in the purchase price of the feeders to break even.

TABLE E.

AVERAGE MONTHLY PRICES - CHOICE BUTCHER STEERS, CALGARY

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1964	20.96	21.19	22.44	23.08	23.06	22.90	23.10	22.31	21.96	21.27	20.97	21.22	22.03
1965	21.48	22.11	22.31	22.72	24.43	25.24	24.95	24.27	23.79	23.70	24.14	24.80	23.66
1966	26.62	26.63	26.20	25.98	25.60	24.98	24.41	24.25	25.02	25.22	25.24	26.35	25.54
1967	26.55	25.86	25.07	24.73	25.40	26.48	26.47	27.12	28.58	28.72	28.10	27.86	26.75
1968	26.25	25.40	24.76	25.18	26.15	27.65	27.61	28.14	27.91	26.96	27.05	26.42	26.55
Average 1964-68	24.37	24.23	24.15	24.33	24.92	25.45	25.10	25.21	25.45	25.17	25.10	24.92	24.90

GOOD FEEDER STEERS, CALGARY

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1964	20.32	21.14	21.92	22.40	22.55	21.83	21.68	20.40	19.99	19.85	19.89	19.54	20.96
1965	18.97	20.39	20.81	21.33	21.98	22.91	22.69	22.48	22.13	22.09	22.26	22.22	21.69
1966	23.83	25.48	26.10	26.00	25.65	25.09	23.86	23.37	24.72	25.00	24.88	24.91	24.91
1967	25.54	25.39	25.82	25.89	26.22	26.35	25.94	25.98	27.12	27.14	26.38	26.00	26.15
1968	24.81	25.12	25.19	25.70	26.65	27.29	27.05	27.11	27.12	26.35	26.36	26.03	26.40
Average 1964-68	22.40	23.07	23.47	23.98	24.10	24.07	23.75	23.38	23.57	23.33	22.99	22.62	23.44

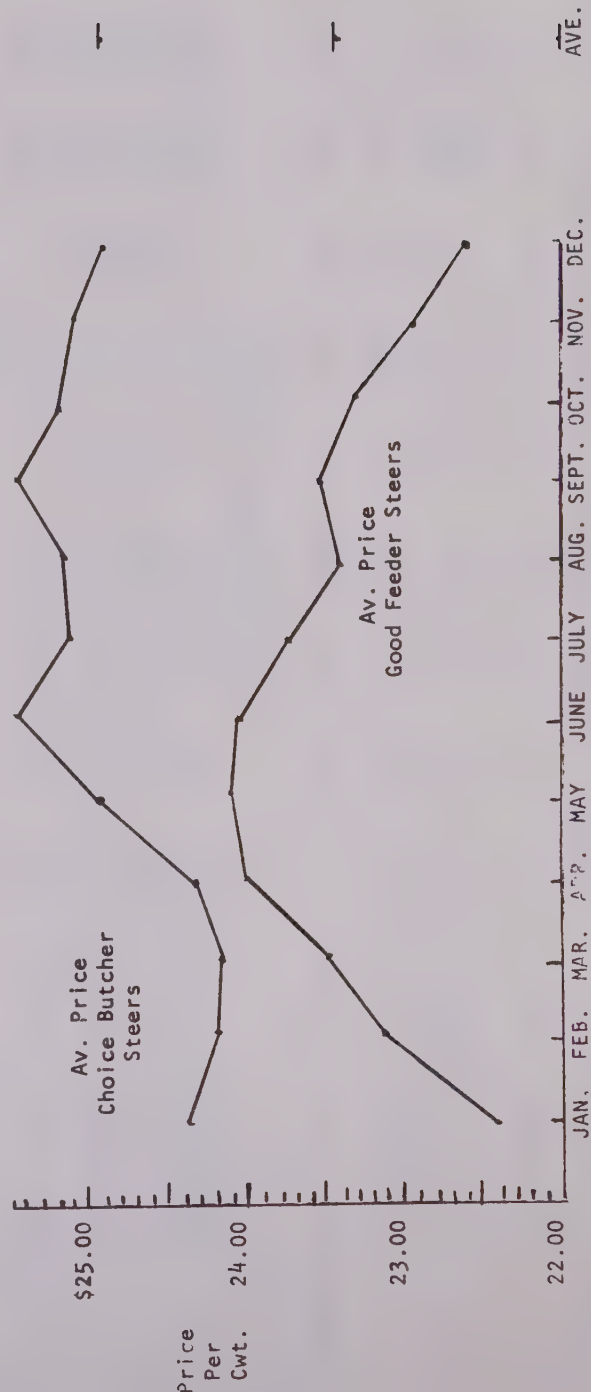


TABLE F.

AVERAGE MONTHLY PRICES - CHOICE BUTCHER STEERS, EDMONTON

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1964	20.47	20.83	22.17	22.64	22.73	22.72	22.82	22.16	21.64	20.82	20.54	20.71	21.69
1965	21.09	21.98	22.39	22.35	23.54	24.65	24.73	23.75	22.86	22.86	23.06	23.85	23.09
1966	25.73	25.94	25.94	25.43	25.24	24.49	23.91	23.85	24.62	24.80	25.25	26.15	25.11
1967	26.35	25.88	25.12	24.55	24.96	26.05	26.29	26.58	27.97	28.25	27.98	27.04	26.42
1968	25.23	24.43	23.98	24.64	25.78	27.03	27.20	27.38	27.27	26.44	26.28	26.07	26.10
Average 1964-68	23.77	23.81	23.92	23.92	24.45	24.98	24.99	24.74	24.79	24.63	24.62	24.76	24.48

GOOD FEEDER STEERS, EDMONTON

1964	20.10	20.90	22.20	22.72	22.25	21.90	21.11	19.14	19.20	18.49	18.87	18.77	20.47
1965	18.35	19.98	20.73	21.23	21.82	22.38	22.11	21.66	21.70	21.70	21.51	22.23	21.28
1966	23.82	25.34	26.48	25.44	25.25	25.18	23.52	23.67	24.03	24.12	24.44	24.49	24.65
1967	25.76	26.24	26.08	25.81	26.48	27.61	26.79	26.36	26.83	26.39	25.52	26.18	26.34
1968	24.85	25.79	26.11	26.75	27.06	27.40	27.63	27.61	27.47	25.94	25.97	26.64	26.60
Average 1964-68	22.58	23.65	24.32	24.39	24.57	24.89	24.23	23.69	23.85	23.33	23.26	23.66	23.86

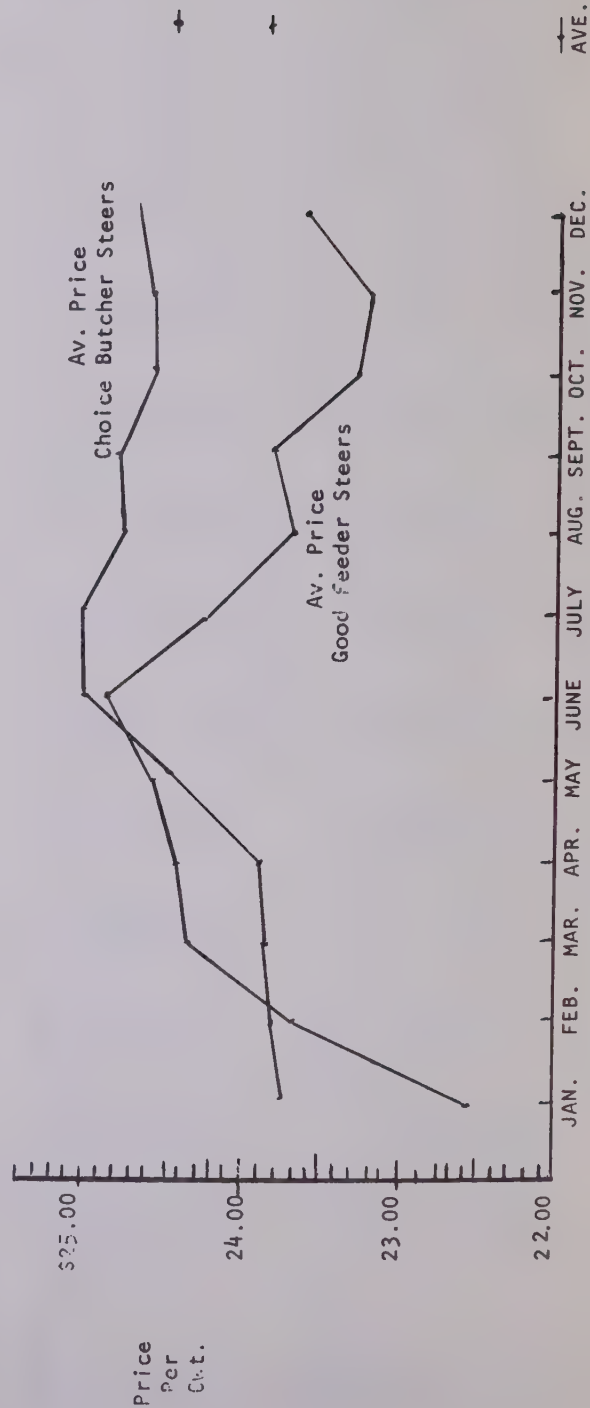


TABLE G. 1967 - RETURNS AND COSTS PER 100 POUNDS OF LIVE ANIMAL PRODUCED
FOR LOW, MEDIUM AND HIGH COST ENTERPRISES

Item	Cost Group			Low Cost Group	Medium Cost Group	High Cost Group	All Farms Studied
Number of Farms				12	12	12	36
Average Production (cwt.)				809	909	767	828
A. Gross Return				\$ 24.85	\$ 25.45	\$ 25.48	\$ 25.26
Grain	559 lb.			11.52	12.99	13.84	12.77
Millfeed	35 lb.			1.77	1.99	2.01	1.93
Roughage (excluding straw)	203 lb.			2.06	2.42	3.33	2.59
Straw	126 lb.			0.61	0.42	168 lb.	0.54
Pasture				0.73	0.47	0.22	0.48
Total Feed Cost				\$ 16.69	\$ 18.29	\$ 20.01	\$ 18.31
Vet. & Medicine				0.30	0.29	0.34	0.31
Other Variable				1.54	1.47	2.08	1.67
B. Variable Cost				\$ 18.53	\$ 20.05	\$ 22.43	\$ 20.29
C. Deprec. & Ins.				1.19	1.19	1.61	1.32
D. Total (B + C)				\$ 19.72	\$ 21.24	\$ 24.04	\$ 21.61
Int. (5%) Bldgs. & Equip.				0.53	0.55	0.72	0.60
Int. (5%) Livestock				1.40	1.83	1.55	1.60
E. Interest Charges				\$ 1.93	\$ 2.38	\$ 2.27	\$ 2.20
F. Total (D + E)				\$ 21.65	\$ 23.62	\$ 26.31	\$ 23.81
G. Labour Cost	1.0 hr.			1.34	1.28	1.49	1.36
H. Total Production Cost (F + G)				\$ 22.99	\$ 24.90	\$ 27.80	\$ 25.17
Av. Wt. of Livestock Purchased				578 lb.	553 lb.	599 lb.	576 lb.
Av. Price of Livestock Purchased				\$ 26.74	\$ 26.58	\$ 25.16	\$ 26.12
Av. Wt. of Livestock Sold				995 lb.	1022 lb.	949 lb.	987 lb.
Av. Price of Livestock Sold				\$ 25.73	\$ 25.93	\$ 24.52	\$ 25.37
Gross Return/\$100. Feed				\$148.91	\$139.14	\$127.30	\$138.04

Note: In the above comparisons, interest is calculated at five per cent on enterprise investment and inventories at the end of the year. Hired labour has been charged at cost. Operator labour has been charged at \$250. per month.

* Taken from "Alberta Cattle Feeding Analysis - 1967"

TABLE H.

PRODUCTION COSTS

Value of Barley	Cost of Production with Labor	Cost of Production with Zero Value for Labor
1.10	27.20	25.85
1.05	26.50	25.15
1.00	25.85	24.50
.95	25.15	23.80
.90	24.50	23.15
.85	23.80	22.45
.80	23.15	21.80
.75	22.45	21.10
.70	21.80	20.45
.65	21.10	19.75
.60	20.45	19.10
.55	19.75	18.40
.50	19.10	17.75

DEPARTMENT OF AGRICULTURE PUBLICATION



PROVINCE OF ALBERTA

THIS AND RELATED PUBLICATIONS
ARE AVAILABLE FROM THE
INFORMATION BRANCH,
ALBERTA DEPARTMENT OF AGRICULTURE,
803 AGRICULTURE BUILDING, EDMONTON
OR FROM DISTRICT EXTENSION OFFICES OF
THE ALBERTA DEPARTMENT OF AGRICULTURE.

H. A. RUSTE, MINISTER
E. E. BALLANTYNE, DEPUTY MINISTER